CARLINGFORD LOUGH GREENWAY

SECTION III

NI / ROI BORDER TO VICTORIA LOCK AMENITY SITE

CH 0075 TO CH 1585 – BOARDWALK PROPOSAL

Outline Construction Environmental Management Plan

ISSUE 1

JULY 2023

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SECTION III: NI / ROI BORDER TO VICTORIA LOCK AMENITY SITE

ISSUE 1

Outline Construction Environmental Management Plan

JULY 2023

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1.0 Introduction

1.1.1 Large scale planning applications will be required to be accompanied by a Construction and Environmental Management Plan (CEMP) that shall incorporate relevant mitigation measures indicated in any lower tier Environmental Impact Assessment or Appropriate Assessment.

1.1.2 The CEMP is to include at a minimum:

- Location of the sites and materials compound(s) including area(s) identified for the storage of construction refuse,
- Location of areas for construction site offices and staff facilities,
- Details of site security fencing and hoardings,
- Details of on-site car parking facilities for site workers during construction,
- Details of the timing and routing of construction traffic to and from the construction site and associated directional signage,
- Measures to obviate queuing of construction traffic on the adjoining road network,
- Measures to prevent the spillage or deposit of clay, rubble, or other debris,
- Alternative arrangements to be put in place for pedestrians and vehicles in the case of the closure of any public right of way during site development works,
- Details of appropriate mitigation measures for noise, dust, and vibration, and monitoring of such levels,
- Containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained; such bunds shall be roofed to exclude rainwater,
- Disposal of construction/demolition waste and details of how it is proposed to manage excavated soil,
- A water and sediment management plan, providing for means to ensure that surface water runoff is controlled such that no silt or other pollutants enter local water courses or drains,
- Details of a water quality monitoring and sampling plan.
- If peat is encountered, a peat storage, handling and reinstatement management plan is required.
- Measures adopted during construction to prevent the spread of invasive species (such as Japanese Knotweed).
- Appointment of an ecological clerk of works at site investigation, preparation, and construction phases.
- Details of appropriate mitigation measures for lighting specifically designed to minimise impacts to biodiversity.

1.1.3 This Outline Construction Environmental Management Plan (OCEMP) details how environmental impacts of the Project are likely to be managed during construction.

1.1.4 The OCEMP includes details of roles and responsibilities, indicative construction methodologies, planning of construction works, control of construction processes, site management, and environmental control measures; with the aim of assisting the Contractor with the implementation of environmental management mitigation & controls, environmental briefings & awareness training, monitoring programmes, construction activities, incident reporting and emergency response.

1.1.5 A Construction Environmental Management Plan (CEMP) will be fully developed by the Contractor before works commence on site; and submitted for review and comment by Newry, Mourne and Down District Council.

2.0 Existing Environment

2.1.1 For details on the existing site location and site description refer to the accompanying Design Report, EcIA, HRA, Archaeological Impact Assessment, and Architectural Heritage Impact Statement.

3.0 Roles and Responsibilities of Staff

3.1 Project Manager

3.1.1 The Project Manager would act on behalf of the Client, with responsibility for managing the Project within the agreed environmental constraints in conjunction with all other necessary management processes.

3.2 Client's Environmental Manager

3.2.1 The Client's Environmental Manager (CEM) would be responsible for monitoring the performance of the project against statutory requirements and the agreed environmental standards. Duties of the CEM would include:

- review the OCEMP and specialist procedures and identify any areas for improvement;
- identify the environmental competence of all contractors working on the Project and advise the Project Manager as to their suitability;
- review method statements for environmental aspects and advise of any suggested improvements prior to work starting;
- monitor construction activities to ensure that identified and appropriate control measures are effective and in compliance with the OCEMP; and
- Act as a main point of contact between the Main Contractor and the Client's Project Team on environmental issues.
- Role / requirement to be confirmed by Newry, Mourne and Down District Council.

3.3 Contract Manager

3.3.1 The Contract Manager shall report directly to the Contractors Managing Director or Contractors Board. The Contract Manager shall ensure the project is completed within the contract programme, budget and to the specification set out in the contract documents.

3.3.2 The following procedure would form part of the contract and the contract manager shall be responsible for the implementation of this procedure:

- Health & Safety Plan;
- Quality Control Plan;
- Site Traffic Management Plan;
- Air Quality & Monitoring Plan;
- Environmental Action Plan; and
- Site Waste Management Plan.

3.3.3 The Contract Manager shall liaise with the Project Manager, design team, statutory authorities, and the Client's operations manager to assist in the development and management of working relationships between the various bodies.

3.3.4 The Contract Manager shall report to the Project Manager and client's representatives monthly via the progress meeting on programme, procedure, and policy issues.

3.4 Contractors Environmental Manager

3.4.1 An individual within the Contractors Team shall be identified and appointed as the Contracts Environmental Manager (Contracts EM). The Contracts EM shall report directly to the Contractors Manager and shall be responsible for the implementation of the Environmental Action Plan.

3.4.2 The Contracts EM would liaise with the Clients Environmental consultant on an ongoing basis and the Contracts EM shall table a report via the progress meetings on the implementation of the Environmental Plan and any ongoing issues.

3.5 Site Waste Manager

3.5.1 An individual within the Contractors Team shall be identified and appointed as the Site Waste Manager (SWM). The SWM shall report directly to both the Contractor's Manager and the Contractor's Site Manager. The SWM shall be responsible for the implementation of the Site Waste Management Plan.

3.5.2 The SWM shall draft the site waste management plan, which shall incorporate the following factors; procurement process, design impacts, work contracts package and sub-contractors' packages, an onsite framework to implement and manage the control of site waste.

3.5.3 The CEM would *l*iaise with the Clients Environmental consultant on an ongoing basis and the CEM shall table a report via the progress meetings on the implementation of the Environmental Plan and any ongoing issues.

3.6 Sub-Contractors Environmental Representatives

3.6.1 Individuals within the principal sub-contractors' team shall be identified and appointed as the sub-contractor's environmental manager representative (SCEMR). The SCEMR's shall liaise with Contracts EM and appropriate client consultants.

3.6.2 SCEMR's shall be responsible for the implementation of their individual environmental action plans, which shall dovetail into the project's environmental action plan.

3.7 Ecological Clerk of Works

3.7.1 The Contractor shall engage a competent Site Ecologist undertake the role of Ecological Clerk of Works on the construction of the Greenway.

3.7.2 Undertake a pre works ecological survey of the site prior to any works commencing.

3.7.3 Assist the Project Manager and the Environmental Manager in the preparation of the CEMP;

3.7.4 Supervise the works and ensure compliance.

3.7.5 Give environmental toolbox talks for each individual construction activity.

3.7.6 Liaise between site management and site workers with respect to the stated construction methodology and environmental control measures to ensure site wide understanding of and responsibility for the implementation of the measures for each construction activity.

3.7.7 The Ecological Clerk of Works will have authority to stop works.

3.7.8 The Ecological Clerk of Works will issue an ecological report as part of the monthly progress report.

3.7.9 Liaise with the Employer's environmental consultants and the NPWS/DAERA;

3.7.10 The Ecological Clerk of Works will seek a derogation from the NWPS for the felling of trees out of season if necessary.

4.0 Indicative Construction Methodologies

4.1 Introduction

4.1.1 The Preliminary Methodology for Construction prepared by Doran Consulting forms part of the requirements for this project. This methodology may be amended where a different construction method is proposed by the Contractor, subject to the written approval of the Employers Representative.

4.2 Environmental Management

4.2.1 Due to the sensitive nature and environmental designations of the area in which the work is to be undertaken, the appointed construction contractor will be required to develop and implement an Environmental Management Plan (CEMP). This CEMP will set out all requirements and conditions identified from the environmental studies, and planning conditions, such as timing, mitigation measures and site procedures. An independent Ecological Clerk of Works (ECoW) shall also be appointed and will be on site to oversee works and to advise on issue which arise.

4.3 Construction Methodology General

4.3.1 Construction of the Greenway will involve excavation of a small quantity of soil, in all circumstances, excavation depths and volumes will be minimised. Excavation works will be carried out in small progressive stages with all topsoil re-used where possible. Suitable soil for the reinstatement of the edges of the trail and for landscaping purposes will be stored on site. This practice will minimise the risk of the introduction of invasive species and reduce material importation costs. Also, importantly this topsoil will contain a species-rich seed bank and should be utilised where possible, as backfill or landscaping and allowed to regenerate naturally. All soil storage will be located at suitable locations and suitably far from the canal, outside of species rich areas, ecologically sensitive areas, areas prone to flooding or with tall herb vegetation and covered to avoid sediment run off and wind blow. The soil storage areas will be selected by the supervising engineer and the Ecological Clerk of Works (ECoW), and the site generally will be regularly monitored by construction staff for signs of run-off, such as silt in surrounding vegetation, to safeguard the surrounding environment. Where necessary measures will be implemented to prevent this, these will take the form of a silt fence or a silt fence. Where required a silt fence may be constructed by the erection of a stock proof fence with a geotextile membrane affixed to it, the bottom of which to be buried in the ground, thereby allowing water to pass through while retaining the sediment. Excavated soil, that is not re-used will be removed from site and disposed of to a Local Authority approved waste facility.

4.3.2 Where additional topsoil and quarried stone is required on site, it will be sourced from stock screened for the presence of any invasive species and where it is confirmed that none are present.

4.3.3 The construction of the Greenway will be carried out by machinery of a suitable size. It is envisaged that a 5-ton mini digger and a 3-ton dumper are sufficiently sized to complete the majority of the construction. Where there is a requirement for larger plant e.g., during bridge construction, agreement shall be reached between the Contractor the supervising engineer and the Ecological Clerk of Works (ECoW) prior to its arrival on site. Strict procedures for plant inspection, maintenance and repairs shall be detailed in the contractor's method statement. Machinery shall be checked for leaks prior to arrival on site and a daily site plant inspection prior to use will be conducted. Where defects are identified that plant shall not be used until the defect has been satisfactorily fixed.

4.3.4 All machinery will be thoroughly cleaned and disinfected prior to arrival and departure from site, through pre-agreed Bio security Protocols, to prevent the spread of invasive species. The method shall be detailed in the contractor's method statement and agreed by both the supervising engineer and the Ecological Clerk of Works (ECoW). Sites of known infestation shall be clearly marked prior to commencement of works and avoided during construction. The importance of preventing the spread of these species will form part of a toolbox talk to all personnel prior to construction stage.

4.3.5 All plant refuelling will take place on site using mobile fuel bowsers. All mobile fuel bowsers shall be bunded to 110% capacity to prevent spills, tanks for bowsers and generators shall be double skinned. When not in use all valves and fuel trigger guns from fuel storage containers will be locked. All refuelling operations will be carried out by dedicated, trained and competent personnel. Plant refuelling will be carried out as far as practicable from watercourses. A spill kit and drip tray shall be on site at all times and available for all refuelling operations. Equipment shall not be left unattended during refuelling. All pipe work from containers to pump nozzles will have anti siphon valves fitted.

4.4 Site Compounds

- Site compounds will be established at suitable locations along the route and within the red line boundary following agreements with landowners.
- Site compounds will be secure at all times using suitable boundary fencing and a pedestrian walkway shall be provided from the compound to the current working area using appropriate signage.
- The Principal Contractor shall prepare and implement a Traffic Management Plan (TMP) outlining procedures to follow and prescribed routes when working on the site.
- The Principal Contractor shall ensure that Construction Traffic Routing Signs are erected prior to works commencing, and that these are maintained in good and clean condition throughout the duration of the works.

- Any required stockpile locations will be provided at relevant locations along the route and reinstated as per the existing condition following completion of the works. Stockpile areas will be bunded to prevent wash out of silts from the compound area.

4.5 Section III – NI/Border to Victoria Lock Amenity Site

4.5.1 3m Wide Bound Greenway

- The proposed greenway route will be marked out using appropriate markers.
- The existing boundary fence, vegetation, and scrub to be removed/cleared where required; and the existing ground excavated to the required construction depth.
- Tree felling to be minimised where possible; and tree roots will be protected as outlined within the Tree Survey Assessment.
- Greenway excavations should be carried out using a suitably sized plant (see note on standard guidelines below)
- The existing sub-grade should be assessed (or existing Site Investigative Reports referred to) to confirm CBRs prior to construction and carry out stabilisation where CBRs are assessed to be <2%.
- The sub-base shall be laid and compacted to the required construction thickness.
- The required base course and wearing course shall be laid, and edge restraints will be installed as per the design specification.
- If it is identified that there is the potential for contamination sources on site the site investigations will be undertaken, and samples collected for chemical Laboratory analysis for waste classification before any spoil is removed and disposed off-site. Any fill identified as being contaminated should be removed and stockpiled separately to avoid spread of contamination within materials removed off site.
- Granular fill will be drawn in from temporary compounds using suitable plant; this should be completed in maximum lengths of 25m to minimise the time and extent of exposed formations throughout construction.
- Geotextiles shall be used where required in areas of poor ground.

- Topsoil which has been stored on-site shall be used to reinstate areas along the greenway and within adjacent drainage channels.

- This vegetated organic material originally stripped and stored along the greenway shall be re-laid so as to expedite reinstatement of vegetation with local species.

- Any areas of vegetation clearance which results in patches of bare ground are to be allowed to naturally reseed, to allow native local pollinator friendly plants to emerge.

4.5.2 4m Timber Boardwalk

- Vegetation, and scrub to be removed/cleared where required.

- Removal and temporary relocation on site of rock armour/stone revetment

- If required, construction of temporary working platform seaward of the boardwalk using sacrificial material, geotextile, and geogrid separator (recoverable at later date)

- Piles will be installed using a pile driver mounted to a large excavator. CHS steel piles to be driven to design depth using vibration techniques and, if design depth is not achieved, an impact hammer may instead be used to drive the piles to the design toe level. Soft-start procedures will be used to ensure incremental increase in pile power over a set time period until full operational power is achieved to minimise environmental effects.

- The pile driver mounted to a large excavator location will be determined by the contractor – we anticipate the below options:

    - Temporary Road closure and both piles to be driven from the road;
    - Landward piles to be driven from the road and seaward piler to be driven on rigs mounted on a floating plant;
    - Plant working from the temporary working platform.

- Reinstatement of Rock Armour and stone revetment

- Steel substructure and boardwalk superstructure to be constructed.

4.5.3 Standard guidelines previously outlined and best practice guidelines will be adhered to in order to minimise adverse environmental impacts during construction. In particular.

- Plant used should be suitable for the proposed width of the greenway to minimise the width of the construction corridor and reduce temporary construction operations within adjacent private lands.

- Plant, particularly excavators and dumpers, should be of suitable size so as to access the greenway corridor without further clearance and of weight that does no compromise root structures.

- All plant shall remain within the construction corridor in order to minimise unnecessary damage to the surrounding landscape and vegetation.

- Plant re-fueling should be carried out within a bunded compound beyond the greenway corridor (in location accessible to fire appliances), with any site stored fuel within a bunded bowser.

- Best practice guidelines in relation to working adjacent to water features will be outlined within the Contractor's CEMP as the site is adjacent to the Carlingford Lough SAC.

- Best practice guidelines in relation to working adjacent to historic features will be outlined within the Contractor's CEMP as the site is adjacent to the Victoria Lock Listed Monument.

- Best practice guidelines in relation to dust will be implemented to reduce/avoid any potential dust impacts.

- Site investigation will be undertaken for waste classification before any spoil is removed and disposed of off-site.

5.0 Planning of Construction Works

5.1 Register of Environmental Impacts (Aspects)

5.1.1 An Environmental Impacts (Aspects) Register is required to be produced. This would register the various risks identified in the Environmental Statement and would be regularly updated to reflect the changing site conditions or methods of working etc. Risks would be identified under the following disciplines:

- Nature Conservation & Biodiversity;
- Landscape & Visual;
- Archaeology and Cultural Heritage;
- Soils, Geology and Hydrogeology;
- Water Environment;
- Noise & Vibration;
- Air Quality;
- Socio-economic;
- Energy & Waste; and
- Traffic.

5.2 Environmental Action Plan

5.2.1 An Environmental Action Plan (EAP) will be prepared for the project by the Main Contractor. The EAP sets out specific environmental objectives and targets for the project and defines the way in which the findings and recommendations of the Environmental Statement would be addressed during the implementation phase of the project (e.g. construction and post-construction phases).

5.2.2 The EAP would identify reference materials, the approval required to complete that activity and the verification documentation to be produced as evidence of satisfactory completion.

5.3 Invasive Species

5.3.1 There is the potential for invasive species being encountered within the boundary of the site; refer the EcIA.

5.3.2 The Contractor will be responsible for producing an Invasive Alien Species Management Plan (IASMP) for all Third Schedule, and other IAS.

5.3.3 The IASMP is to be adhered to for the duration of the works and the plan shall as a minimum identify specific actions for:

- The prevention, to the extent possible, of acceptance of invasive species in loads of soil and stone or of topsoil arriving or leaving the site.
- The remedial actions for eradication of invasive species growing at the site.
- Validation to confirm the absence of invasive species on site following completion of the works.
- Production of Method Statements and Biosecurity Protocols.
- Management protocols for both construction and maintenance-related activities.
- Management protocols to combat the spread of invasive species e.g., guidance on cleaning of equipment and machinery.
- Management protocols to ensure imported materials are free from alien invasive species.
- Guidance on post-construction monitoring for invasive species as part of maintenance.

5.4 Risk Assessments

5.4.1 The Principal Contractor shall undertake a review of this OCEMP in addition to consideration of the physical and topographical elements of the site and undertake a risk assessment based upon a likelihood / severity matrix.

5.4.2 The key topics for review are:

- Understanding the project;
- Identification and evaluation of key impacts and magnitudes;
- Alternative & mitigation actions; and
- Reporting.

5.4.3 Identified risks shall be assessed by a systematic scoring matrix where a consideration of potentially impacting statutory consultees would also be assessed.

5.5 Method Statements

5.5.1 The Principal Contractor shall create method statements to control the potential risks identified in the register. The method statements shall identify key risk stakeholders and set out detailed procedures to manage the environmental risks.

5.5.2 The key topics for inclusion in the method statements are:

- Site Clearance activities;
- Enabling work activities;
- Construction activities;
- Human activities associated with construction;
- Traffic management; and
- Noise and Air Quality monitoring.

5.5.3 Construction activities shall be monitored on an ongoing basis against the method statements to ensure the environmental risks are managed and controlled.

5.6 Site Environmental Standard

5.7 The Principal Contractor shall set out site environmental standards by which construction activities would be monitored. These site environmental standards shall take into consideration the environmental risks identified in the environmental risk assessments. Site environmental standards shall incorporate all human activity associated with the construction works. The Principal Contractor shall hold a serious of induction courses to ensure the relevant operative are aware and comply with the site environmental standards.

5.8 The following are considered when identifying environmental aspects:

- Impact on protected species;
- Impacts on Protected Habitats;
- Emissions to air;
- Releases to water;
- Management of wastes;
- Contamination of land;
- Resources usage;
- Sensitivity of receptors;
- Noise, odour, dust, vibration, visible impact and;
- Project environmental / remediation statement;

6.0 Control of Construction Processes

6.1 Training, Awareness and Competence

6.1.1 The Principal Contractor shall set out a programme of training to enable all site personnel to be aware of the potential risk to the environment during the construction progress.

6.1.2 It is envisaged the Principal Contractor shall either appoint within their organisation an Environmental Training Officer or engage an Environmental Consultant to set out a series of induction courses for all site personnel including sub-contractors.

6.1.3 The induction courses shall ensure all site personnel are aware of the environmental risks and are competent to be engaged on the project.

6.2 Supervisor of Construction Activities

6.2.1 The Principal Contractor shall facilitate the preparation of ongoing reports including environmental reports. These reports shall be co-ordinated within the monthly site meeting reporting procedure. However, on occasions where the construction activities present an increased environmental risk, these reports shall be carried out weekly.

6.2.2 This report would form the basis for the Principal Contractor to supervise the environmental impact on the construction activities.

6.3 Environmental Inspection, Monitoring and Reporting

6.3.1 The Principal Contractor shall prepare a monthly environmental report to be tabled at the monthly site progress meetings. This report shall monitor the implementation of the environmental report and review the ongoing site inspections. The monthly reports shall be forwarded to the Clients Environmental Manager for consultation and review.

6.4 Archaeological and Historic Finds

6.4.1 The following information is provided for general information and guidance. Please refer to the Archaeological Impact Assessment for full details.

6.4.2 The creation of the greenway will entail the clearance of vegetation and topsoil removal and it is possible that this could expose additional features.

6.4.3 Archaeological monitoring of topsoil removal along the route of the proposed greenway should be conducted. This work may be conducted under relevant archaeological licences.

6.5 Communications with the Public

6.5.1 The Principal Contractor is to appoint a Community Engagement Manager (CEM) for the project.

6.5.2 To ensure that the project has minimal disruptions, the CEM, in co-ordination with the Council's Landowner Liaison Officer will maintain ongoing liaison with neighbours and premises owners with regard to the maintenance of access etc.

6.5.3 Complaints will be addressed efficiently, and all efforts made to maintain good working relations between all parties.

6.5.4 Complaints will be documented on 'Complaint Logs' and reviewed at monthly progress meetings. Operatives employed on site will be informed at site induction of the importance of maintaining good relations.

6.5.5 The Principal Contractor shall facilitate with any reports necessary for publication into the public domain. A designated notice board shall be identified on site where information on the project shall be displayed.

7.0 Site Management and Environmental Control Measures

7.1 Construction Works Guidance Documents:

- CIRIA - C532 Control of water pollution from construction sites - Guidance for consultants and contractors;
- CIRIA - C648 Control of Water Pollution from Linear Construction Projects;
- CIRIA - C650 Environmental Good Practice;
- FÁS and the Construction Industry Federation - Construction and Demolition Waste Management: A handbook for Contractors and Site Managers;
- WRAP – Setting a Requirement for Recycled Content in Building Projects;
- Planning Act (Northern Ireland) 2011
- Planning (Development Management) Regulations (Northern Ireland) 2015, No. 71
- The Planning (General Development Procedure) Order (Northern Ireland) 2015, No. 72
- Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2017, No. 83
- The Air Quality Standards Regulations (Northern
- Ireland) 2010 (SR 188) as amended by SR 2017/2
- Clean Air Act 1993
- Control of Pollution (Amendment) Act 1989
- Environmental Noise Regulations (Northern Ireland) 2006 (SR 387)
- Control of Noise (Codes of Practice for Construction and Open Sites) Order (Northern Ireland) 2002 (No 303)
- The Construction Plant and Equipment (Harmonization of Noise Emission Standard) (Amendment) Regulations 1995
- Climate Change Act 2008
- Historic Monuments and Archaeological Objects (Northern Ireland) Order 1995 No 1625 (N.I. 9)
- Wildlife (Northern Ireland) Order 1985, No. 171 (NI 2)
- Nature Conservation and Amenity Lands (Northern Ireland) Order 1985, No. 170 (NI 1)
- Nature Conservation and Amenity Lands (Amendment) (Northern Ireland) Order 1989, No. 492 (NI 3)
- Environment (Northern Ireland) Order 2002, No. 3153 (NI 7) (including amendments)
- Wildlife and Natural Environment Act (Northern Ireland) 2011
- Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (SR 380) as amended by SR 2007/ 245; SR 2009/8; SR 2011/216; SR 2012/368 and SR 2015/182
- Planning (Trees) Regulations (Northern Ireland) 2015 (SR 84)
- Foyle Fisheries Act (Northern Ireland) 1952
- GPP5 – 'Works & Maintenance in or Near Water'
- GPP22 – 'Dealing with Spills'
- The Control of Pollution (Oil Storage) Regulations

7.2 Storage and housekeeping of fuels, oils, paints, and chemicals

- Keep oils, fuels, paints, and chemicals in a secure, lockable, bunded store in the compound.
- Any hazardous liquid waste, chemicals, or oil/fuel storage containers temporary or otherwise to be bunded and located within the Compound Area. Bunds are to be designed to contain 110 % of the capacity of the largest storage container located within the bund.
- Storage of dry materials/chemicals shall be in sealed metal containers and shall be managed in a manner which prevents the discharge of polluting matter to ground or surface water. Non-hazardous dry materials shall be delivered to site in heavy duty bulk bags, for storage in the Compound Area and shall also be managed in a manner which prevents the discharge of polluting matter to ground or surface water.
- There shall be no overflow drain facility from any bunds on site and all filling and off-take points shall be located within a bund.
- Move only minimum quantities of oils, fuels, paints, and chemicals to other areas of the site.
- Refuel / refill in designated areas or compound; all necessary refuelling of plant and equipment shall only take place within a Compound Area and trays of adequate capacity shall be provided to contain any spillage during refuelling. Refuel using funnel or nozzle.
- Do not allow diesel to spill on to the ground whilst refuelling. Use a drip tray with absorbent pads.
- If fuel spillage occurs, inform site management staff immediately. Mop up using oil absorbent pads.
- Do not leave unused fuel, oil, paints, or chemicals on site.
- Dispose of oil and used oil filters as Hazardous (special) Waste. Plant fitters must remove used oil and oil filters from site when plant is serviced. Plant should be serviced on a hard standing such as concrete.
- Follow advice in Product Data Sheets with regards to storage, use, and safe disposal of chemicals and paints.
- Bulk fuel tanks must be fully bunded. Seek advice from site management if uncertain.

7.3 Drainage and Water Quality

7.3.1 The Principal Contractor will adopt good construction management practices that will reduce the risks of accidental discharge of pollutants into any watercourse or groundwater.

- Where applicable the works shall be planned and executed in accordance with and general Pollution Prevention Guidelines.

- The contractor should ensure that operations do not give rise to the discharge of dirty water into surface water features i.e., the canal / streams / watercourses / ditches etc.
- Where feasible, all silts should be removed from the system for disposal, rather than allowing them to drain into the existing drainage infrastructure.
- Mixers and hand tools will not be washed off in existing surface water infrastructure.
- To prevent run off from stripped ground bunds are to be placed on the downstream side of stockpiles.
- Water from excavations shall be pumped to land and allowed to settle, or passed through silt traps, before allowed to return to the existing surface water drainage infrastructure.
- Good site management will ensure that surface water and that ground water will be protected from accidental contamination.
- No water will be discharged from the works, until any required consents have been obtained from the OPW.
- Portable toilets and sanitary facilities will be provided for site use.
- Plant will be re-fuelled away from existing surface water features.
- All site operatives will have immediate access to spill kits when machinery is being used.

7.3.2 Practices will be incorporated into the final CEMP through the development of a specific Surface Water Management Plan and adhered to.

7.3.3 The Surface water management plan should outline measures.

7.4 Pollution Prevention Measures

- Grout / concrete washout facilities shall be established away from existing surface water features.
- Care to be taken to prevent spilt concrete from entering existing surface water features or other sensitive areas.
- Where possible prevent water from entering excavations; Portable toilets and sanitary facilities will be provided for site use.
- Plant will use biodegradable oils.
- Plant will be re-fuelled in designated areas only away from existing surface water features.
- All site operatives will have immediate access to spill kits when machinery is being used.
- Minimise dust and mud generation on site and access roads;
- In the event of a major spillage the contractor's Pollution Control and Incidence Response Plan shall be followed.
- The first action is to stop the source of pollution and contain the spillage.
- To be further developed by the Contractor once subcontractors have been appointed and before works commence on site.

7.5 Noise & Vibration

7.5.1 Noise is often explained as being a sound that is unwanted by the listener. Excessive noise levels on site represent a major hazard to site workers and can annoy neighbours. Noise causes more off-site complaints than any other topic and can rapidly sour relations. Noise can also disturb wildlife and natural heritage.

7.5.2 Vibration may cause damage to buildings and sensitive equipment such as computers within buildings. Vibration may also cause disruption to wildlife, and damage to geological, and archaeological sites.

7.5.3 The construction works would entail a Best Practicable Means' approach to be adopted to minimise all aspects of construction noise as far as possible according to the guidance in BS 5228-1 (2009 + A1:2014) "Code of Practice for Noise and Vibration Control on Construction and Open Sites", in agreement with Monahan County Council.

7.5.4 The following measures can be implemented to reduce noise and vibration:

- Timing far as is practicable for certain operations to occur at times of the day that would cause least effect to receptors;
- The proposed construction working hours to minimise noise disturbance would be Weekdays (i.e. Monday to Friday): 8am to 6pm and Saturday: 8am to 1pm;
- No construction work to be carried out on Sundays or Public Holidays or during night- time hours;
- Site hoardings would be constructed as early as possible in the construction programme;
- Inform local community of programme of works and description of work to be carried out;
- The quietest possible plant that can reasonably practicably be obtained would be used for each construction task;
- Route construction vehicles to take account of the need to reduce noise and vibration;
- Consider the orientation of plant that generates more noise in one direction than another;
- Items of plant and equipment to be serviced in accordance with maintenance programme;
- Use only plant conforming with relevant standards and directives on emissions;
- Ensure doors are well sealed, and kept closed on compressors;
- Use of radios or other sound systems would not be permitted anywhere on the construction site; and
- Cutting operations or other noisy tasks would be minimised through offsite fabrication wherever practicable.

7.6 Wildlife and Vegetation

- It is illegal to knowingly disturb nesting birds.
- All care should be taken to avoid disturbance to wildlife. Any sightings of protected species such as badgers, otters, or bats must be reported to site staff immediately.
- Care must be taken not to release harmful substances into the environment since wildlife can be affected.
- Litter can be hazardous to wildlife and should be disposed of properly.
- Avoid polluting the land or vegetation with any fuels, oils, paints, chemicals, or wastes.
- Do not damage existing vegetation that will remain at the end of the works when unloading, manoeuvring, etc.
- Do not damage, disturb, or remove any vegetation unless it is a specific requirement in a Method Statement.
- Do not store materials within the canopy of a tree; otherwise, the tree roots may be damaged.
- Access to the site and areas within the site, must only be by designated routes.
- All works must be within the site boundary.
- The Contractor to refer to the accompanying EcIA when compiling their CEMP.

7.7 Air Quality (Control of Dust)

7.7.1 Dust is generally considered to be any airborne solid matter up to about 2mm in size. The presence of airborne dust often generates complaints of discomfort or inconvenience. Dust emitting activities can be greatly reduced or eliminated by applying the site-specific mitigation measures are detailed as follows:

- Erect site hoardings to site boundary;
- No bonfires permitted;
- Plan site layout – machinery and dust causing activities should be located away from sensitive receptors;
- All site personnel to be fully trained;
- Trained and responsible manager on site during working times to maintain logbook and carry out site inspections;
- Provision of an Air Quality Management and Monitoring System;
- Employment of buffer zones for haulage movements adjacent to high-risk areas;
- Location of temporary accommodation, stockpiles of materials and spoil heaps away from sensitive areas;
- Establishment of vehicle & wheel washing facilities for excavation & transportation plant and equipment;
- Programme excavation & disposal activities during low dust generating conditions.
- Establishment and implementation of a Site Traffic Management Plan to limit and route site construction traffic away from high-risk areas;
- All vehicles to switch off engines – no idling vehicles;
- All loads entering and leaving site to be covered;
- No site runoff of water or mud;
- On-road vehicles to comply to set emission standards;
- Hard surfacing and effective cleaning of haul routes and appropriate speed limit around site;
- Minimise movement of construction traffic around site;
- Use water as dust suppressant;
- Minimise dust generating activities during demolitions through undertaking demolitions by hand where possible, water dousing and through the provision of dust proof screens at boundaries with high-risk areas;
- Securely cover skips and minimise drop heights;
- Minimise dust generating activities;
- Cover, seed, or fence stockpiles to prevent wind whipping;
- Re-vegetate earthworks and exposed areas; and
- Ensure construction plant and equipment comply with legislation and guidance relating to the reduction and minimisation of emissions from exhaust systems.

7.8 Transport & Traffic

7.8.1 A traffic management plan would be produced to deal with traffic during the construction period. This would address issues such as routes for construction traffic and how the site would be managed to minimise conflicts with other visitors to the site and the surrounding environment. It is likely to include the following:

- Signage with speed limits;
- Regular sweeping of roads;
- Designated hours of work;
- Deliveries to contact site agent prior to arrival;
- Offsite fabrication to reduce deliveries of numerous individual building components;
- Restricted times for deliveries to the site would also help to ensure that construction traffic would be kept off the road network during the peak traffic times;
- Designated members of the Principal Contractor's delivery team will fully co-ordinate all deliveries and allocate suitable time slots. Regular liaison meetings with the client to ensure deliveries do not disrupt the local traffic, businesses, and residences.
- Suitable routes for the construction traffic should be chosen. Traffic routes to the site, particularly for HGVs, would be planned so as to avoid sensitive areas. Likely to include one way construction vehicle system to ensure that all materials can be delivered to the designated area on site in a safe and effective manner;
- On-site parking provision for all construction vehicles, site operatives and visitors to the project to ensure there is no disruption to any local residents or businesses;
- Inform local community of programme of works and description of work to be carried out;
- A clear signage strategy would be required to ensure that construction traffic uses only the designated routes to access the site in order to minimise the impact on the surrounding local area; and
- Access routes reinstated to the previous or higher state post construction.

7.9 Waste Management

7.9.1 Under the Duty of Care, the waste producer has a duty to ensure that the waste contractor who removes the waste has a licence issued by the relevant authority.

7.9.2 A written description of the waste must be given to the contractor. Certain hazardous wastes are defined as being "special wastes" and a more rigorous consignment note system applies. Waste management principals are likely to include the following:

- Hazardous (special) waste such as oil, oil filters, grease cartridges, chemicals, paint, empty aerosols, and partially empty containers containing these materials must not be thrown in an ordinary skip or bin. Store in separate containers for hazardous waste. By law hazardous waste must be separated.
- Used batteries must not be left on site. These contain acid and must be disposed of as Hazardous Waste.
- Do not burn waste material. Burning of waste on site requires a waste exemption licence to comply with waste legislation.
- Waste excavated or generated on site must be taken to a licensed waste disposal facility or waste exempt site.
- Waste carriers must have a Waste Carrier Licence to comply with the law.
- Do not overload trucks or have debris protruding over the sides of the trucks.
- Keep access routes clean.
- Do not litter the site.

7.9.3 The main types of waste from a typical construction project are outlined in the table below:

Activity	Waste Generated	Disposal Recommendation
Site preparation	Hedge cuttings and wood	Chip trees and hedges to produce mulch
	Demolition of existing structures.	Re-use as hardcore or remove to a waste exempt site.
Site operations	Office rubbish, paper, packaging, canteen refuse, etc.	Recycle as much as possible, canteen refuse to landfill.
	Waste from site	Collect in covered skips and send to a licensed waste disposal site
	Scrap metal and re-bar	Send to recycling facility
	Sewage	To the mains sewer.
	Wood	If unable to chip on site, send for recycling to a licensed waste station
	Concrete	Re-use surplus for blinding layers or break up for re-use as hardcore.
Site maintenance of plant	Workshop waste, e.g. paints, oil, etc.	Collect for recycling, e.g. used oil, or send to licensed waste transfer station, probably classified as hazardous waste.
Backfilling and grading	Surplus spoil	Take to licensed waste disposal site, or site that is exempt from waste management licensing.
Reinstatement	Temporary stone areas	Remove to waste exempt site
	Temporary fencing	Re-use elsewhere

7.10 Spoil Management

7.10.1 The Contractor will produce a Spoil Management Plan as part of the management of the project.

7.10.2 The Spoil management plan will include details of all spoil to be excavated along with how it is to be monitored during construction, stored, disposed of, used in reinstatement. The Spoil Management Plan will also include method statements demonstrating water pollution preventative measures.

7.11 Emergency / Incident Response

7.11.1 The Contractor will produce an Environmental Emergency Response Plan (EERP) as part of the Environmental Management of the project. The EERP will:

- Detail potential environmental incidents and the appropriate response required.
- Provide details of the 24-hour Environmental Emergency Response Crew to be available throughout construction.
- Provide a list of statutory bodies to be contacted in the case of an Environmental Emergency.
- Detail the appropriate reporting procedure required for near misses, incident and accidents, and a template report form for same.
  Require all personnel to undertake a site induction which will include an Environmental “Toolbox” workshop that includes EERP.